

Amendment under 37 CFR §1.111  
Application No. 10/536,997  
Attorney Docket No. 052644

**REMARKS**

Claims 1-26 are pending in the application. Claims 1-14 and 16-25 stand rejected. The Examiner has indicated that claims 15 and 26 are allowed. Claims 1-15 have been amended. No new matter has been added. Applicants have amended claim 15 in order to correct a typographical error.

Applicants thank the Examiner for considering claims 15 and 26 to be allowable subject matter.

**Yamaoka Reference, US Patent 6,825,673:**

Applicants respectfully submit that the ‘673 patent does not qualify as proper prior art. In order for the reference to qualify under 35 U.S.C. § 103(a), the reference must qualify as prior art under 35 U.S.C. § 102, with the exception of 35 U.S.C. §§ 102(e)-(g).

In the present case, the ‘673 patent cannot be used under 35 U.S.C. § 102(e) as the international application was not published in English.<sup>1</sup> Furthermore the ‘673 patent cannot be used under 35 U.S.C. §§102(a) and (b) as the patent issued after the domestic priority date of November 28, 2003.

As such, Applicants respectfully submit that the ‘673 patent cannot be used as prior art.

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<sup>1</sup> According to the WIPO website, it was published in Japanese.

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**On the Merits**

**Claim Rejections - 35 U.S.C. § 103**

Claims 1-3, 7, 8, 16 and 17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Takada* (US 6,373,258 B2) in view of *Sotaro et al.* (JP 2011-84905) and *Yamaoka* (US 6,825,673 B1).

Claims 4, 5, 6 and 18-21 stand rejected under 35 U.S.C. 103(a) as being unpatentable over *Takada* and *Sotaro* as applied to claims 2 and 17 above, and further in view of *Hironobu* (JP 05-333357).

Claims 9 and 10 stand rejected under 35 U.S.C. 103(a) as being unpatentable over *Tanaka* and *Sotaro* as applied to claim 6 above, and further in view of *Norio* (JP 2000-221227).

Claim 11 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over *Takada*, *Sotaro*, *Yamaoka* and *Norio* as applied to claims 2 and 9 above, and further in view of *Tanaka et al.* (US 5,241,276).

Claim 12-14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Takada*, *Sotaro* and *Norio* as applied to claim 9 above, and further in view of *Kawaike et al.* (US 6,937,035 B2).

Claims 22 and 23 stand rejected under 35 U.S.C. 103(a) as being unpatentable over *Tanaka*, *Sotaro* and *Hironobu* as applied to claim 21 above, and further in view of *Norio* (JP 2000-221227).

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Claim 24 stands rejected under 35 U.S.C. 103(a) as being unpatentable over *Tanaka*, *Sotaro* and *Norio* as applied to claim 22 above, and further in view of *Kawaike et al.* (6,937,035 B2).

Claim 25 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over *Takada*, *Sotaro*, *Yamaoka* and *Hironobu* as applied to claim 18 above, and further in view of *Tanaka* (US 5,241,276).

With respect to the above mentioned rejections, Applicants provide the following detailed response.

Independent Claims 1, 9 and 16:

According to the present invention as amended, “both the short and the disconnection in a target pattern can be assuredly detected only by a single sensor electrode 25,” which is described on page 17, lines 21 to 24 of the English specification as filed.

Among other things, this feature of the present invention can be attained by requiring “the sensor electrode having a width corresponding to a width of at least two rows of inspection target patterns,” and “first moving means for sequentially moving the supply electrode and the sensor electrode mounted on respective moving support members across said both ends of the inspection target pattern with each electrode apart from the inspection target pattern in a state in which each electrode is capacitively coupled with the opposed inspection target pattern” as essential elements.

To the contrary, according to the description of claim 1 of *Takada* (U.S. Patent No. 6,373,258), it reads “bringing said sensing surface toward said plurality of rows of conductive

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pattern lines including a first row of said conductive pattern lines in non-contact manner,” and “said sensing surface comprises a longitudinal length which covers said plurality of rows of conductive pattern lines in a direction of columns thereof.” Therefore, as asserted by the Examiner, *Takada* may disclose that a sensor extends across a plurality of inspection target patterns.

The present invention, however, does not define “a sensor extends across a plurality of inspection target patterns, but defines “a sensor electrode has a width corresponding to a width of at least two rows of inspection targets patterns,” which is technically different from the technique disclosed by *Takada* from the viewpoint of functions and effects. Accordingly, the present invention is not obvious in light of the teachings of *Takada*. Concretely, the *Takada*’s teaching, i.e., “a sensor extends across a plurality of inspection target patterns” is a technique consequently derived from the fact that the sensor is immovably placed. This teaching is meaningless to the technique requiring the movement of the sensor as taught by the present invention.

Furthermore, in *Takada*, the probe 310 for supplying an inspection signal is in contact with the inspection target pattern. To the contrary, in the present invention, both the input side and the output side are capacitively coupled with the inspection target pattern in a non-contact manner.

On the other hand, *Sotaro* (JP 2001-84905) discloses “the technique for moving the supply electrode 22,” and “the supply electrode 22 has a width corresponding to a width of at least three rows of the inspection target patterns 12. Please also note that “the inspection electrode 21 is in contact with the inspection target pattern 12.” Furthermore, *Sotaro* does not

disclose or fairly suggest, “both the short and the disconnection in a target pattern can be assuredly detected only by a single sensor electrode 25.” In other words, in *Sotaro*, the technique that the supply electrode 22 has a width corresponding to a width of at least three rows of the inspection target patterns 12 is employed from the viewpoint of “reducing the number of probes,” and therefore *Sotaro* merely discloses a technique completely different from the technique of the present invention of “both the short and the disconnection in a target pattern can be assuredly detected only by a single sensor electrode 25.”

Furthermore, *Yamaoka*<sup>2</sup> (U.S. Patent No. 6,825,673), may disclose the non-contact capacitive coupling technique at the input side and the output side. As will be apparent from Fig. 14, however, in *Yamaoka*, the sensor 501 is mounted on the inspection target substrate in an immovable manner, which is basically different from the technique taught by the present invention in which the sensor moves.

Dependent Claim 10:

Dependent claim 10 requires in part:

the circuit pattern inspection apparatus ... which includes contacting means for bringing either one of said supply and sensor electrodes into contact with said defective target pattern.

The Examiner acknowledges that the cited references do not explicitly disclose this feature. The Examiner, however, asserts that “it is inherent that some sort of contact means (either manual or automatic) must be present in order to allow the contact of the supply means to

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<sup>2</sup> Which Applicants respectfully submit is not prior art.

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the pattern for the purpose of injecting the pattern with test currents for testing.” Pages 9 and 10 of Office Action.

The Examiner’s assertion does not appear to be correct. “To establish inherency, the extrinsic evidence ‘must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.’”<sup>3</sup>

The Examiner’s assertion that the supply means must contact the test pattern “for the purpose of injecting the pattern with test currents” does not appear to be correct. As discussed previously in claim 1, the Examiner is pointing out that the sensor electrodes are capacitively coupled to the pattern to be inspected. Thus, the Examiner’s position about contact being necessary to “inject” current appears to be improper as it is contradicting what the Examiner is asserting to reject claim 1. A capacitively coupled electrode may be able to “inject” current.

Because the features of claim 10 are not disclosed, fairly suggested or inherent in the cited references, the Examiner’s rejection appears to be inappropriate.

Dependent Claim 23:

As dependent claim 23 is similar to dependent claim 10, the same arguments and rationale as applied to claim 10 also apply to claim 23.

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<sup>3</sup> *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999).

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Dependent Claims 27 and 28:

Claims 27 and 28 are similar to claims 7 and 8 respectively, but possess a different dependency, but ultimately depend upon independent claim 1. As such, the arguments presented above regarding independent claim 1 also apply to claims 27 and 28.

**SUMMARY**

It should be concluded that even if *Takada, Sotaro* and *Yamaoka* are combined, the structure of the present invention is not obvious in light of the cited references. Furthermore, such a combination definitely cannot attain the specific effects of the present invention, i.e., “both the short and the disconnection in a target pattern can be assuredly detected only by a single sensor electrode 25.” Under the circumstances, Applicants submit that the present invention could not have been made by combining *Takada, Sotaro* and *Yamaoka* and therefore it should not be rejected under the 35 U.S.C. 103.

In view of the aforementioned amendments and accompanying remarks, Applicants submit that the claims, as herein amended, are in condition for allowance. Applicants request such action at an early date.

If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicants’ undersigned agent to arrange for an interview to expedite the disposition of this case.

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If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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